



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

[Handwritten signature]

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,564	06/02/2000	Alberto Profumo	3286-0103P	7632

7590 01/05/2004

Birch Stewart Kolasch & Birch LLP
P.O.Box 747
Falls Church, VA 22040-0747

EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
----------	--------------

2663

DATE MAILED: 01/05/2004

[Handwritten signature]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/586,564

Applicant(s)

PROFUMO ET AL.

Examiner

Derrick W. Ferris

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. **Claims 18-36** as amended are still in consideration for this application. Applicant has canceled claims 1-17. Applicant has added claims 18-36.
2. Examiner **withdraws** the claim objection(s) for Office action filed 09/11/03.
3. Examiner **withdraws** the 112-second paragraph rejection(s) for Office action filed 09/11/03. Examiner thanks applicant for making the necessary corrections to clarify the recited claimed subject matter and thus withdraws the rejection.
4. Examiner **withdraws** the objection to the specification and thanks applicant for making corrections to the Abstract.
5. Examiner does **not withdraw** the obviousness rejection to *Hou et al.* ("Hou"); *Ghaibeh et al.* ("Ghaibeh"); and *Ghaibeh et al.* ("Ghaibeh") in view of *Narasimhan et al.* ("Narasimhan") for Office action filed 09/11/03.

With respect to the *Hou* reference, examiner notes the following limitations are at issue:

"receiving instantaneous bandwidth requirement information or requests sent from said portion of peripheral stations (PSs) at the Master Station"

"distributing bandwidth not assigned with said static modality to said portion in accordance with additional modalities using dynamic bandwidth allocation".

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a step of receiving in relation to a dynamic bandwidth allocation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification

Art Unit: 2663

are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In particular, support for the limitation found, inter alia, at page 6, lines 33-35 of applicant's specification where such receiving information is in the form of a "request". Specifically, "request" information is for dynamic bandwidth allocation. *Hou* teaches using "request" information for the initial setup but as pointed by the applicant is silent or deficient for using such information for dynamic bandwidth allocation (e.g., see column 8, lines 6-15 and column 8, lines 29-28). Thus *Hou* meets the limitation by providing only the information during the initial setup. Additional bandwidth is then provided dynamically based on certain factors (e.g., see column 2, lines 36-56). Should applicant clarify that a step of receiving is in relation to dynamic bandwidth allocation then the examiner would withdraw the rejection. Examiner notes that new claims 35 and 36 clearly recite the above-mentioned limitation.

With respect to the *Ghaibeh* reference, examiner notes the following limitation is at issue:

"preallocating a certain portion of total bandwidth in a static modality to at a portion of the plurality of Peripheral Stations on the basis of information about active connections without considering status of queues in the plurality of Peripheral Stations".

In particular, applicant claims that *Ghaibeh* does not teach static modality. The examiner respectfully disagrees. Static modality is supported through CBR as taught e.g., at column 5, lines 55-67 and column 09, line 57 – column 10, line 11 since CBR is static as is known in the art. In particular, applicant also supports such an assertion on page 06, lines 10-11 of applicant's specification disclosing:

"To satisfy QoS (Quality of Service) requirements of CBR traffic static assignment is used; for other types of traffic dynamic assignment is preferred."

Art Unit: 2663

In addition, see also page 08, lines 07-20 and 30-33 of applicant's specification.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 18, 22-30, and 32-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,324,184 B1 to *Hou et al.* (cited on Search Report as WO 97/35410).

As to **claim 18**, *Hou et al.* discloses both a dynamic and static method for allocating time slots in an ATM system [column 4, lines 21-41]. Shown in figures 2 and 5 are a master station MS (i.e., central controller 210) and peripheral stations PS (i.e., subscriber units 205,252,254). In particular, a portion of the bandwidth is assigned to static connections and the remainder is distributed according to dynamic bandwidth allocation DBA techniques [column 7, lines 26-36; column 8, lines 1-14; figure 4]. Specifically, *Hou et al.* teaches "guaranteed dynamic bandwidth" using R_{min} [e.g., column 7, lines 54-67; column 8, lines -14; column 8, lines 39-56].

Examiner notes that it may not be clear from *Hou et al.* on "available dynamic bandwidth" which is shared using equal parts among all the peripheral stations.

Examiner notes that it would have been obvious to someone skilled in the art prior to applicant's invention to share the bandwidth equally among all peripheral stations. One motivation would be to assign the same level quality of service between all stations (i.e., allow each station equal access). As support, *Hou et al.* discloses that bandwidth is

Art Unit: 2663

allocated (i.e., adjusted) for each user in each channel in successive control intervals [column 9, lines 7-22; figure 4; column 10, lines 42-61].

As to **claim 22**, see column 7, lines 27-37.

As to **claim 23**, examiner notes a reasonable but broad interpretation of “means to choose the queue” with respect to QoS and counters (see reasoning behind rejection for claim 5).

As to **claim 24**, see figure 4.

As to **claim 25**, see rejection for claim 5.

As to **claim 26**, see column 11, lines 46-47.

As to **claim 27**, see the rejection for claim 1.

As to **claim 28**, see column 6, lines 14-42.

As to **claim 29**, examiner notes that it would have been obvious to someone skilled in the art prior to applicant’s invention to reinsert retransmitted cells in the correct order given the teachings at column 6, lines 14-42.

As to **claim 30**, see the rejection for claim 1.

As to **claims 32-34**, see column 2, lines 8-35 where examiner notes a reasonable but broad interpretation of queue status.

8. **Claims 18-27, 30-31, and 35-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,978,374 to *Ghaibeh et al.* (“*Ghaibeh*”).

As to **claim 18**, *Ghaibeh* discloses a point-to-multipoint network where figure 1 shows at least one head-end 22 (i.e., master station) and a plurality of network units (i.e., peripheral stations). In particular, *Ghaibeh* discloses a system and method for

assigning/allocating bandwidth on the transmission channel from the network units 26 to the head-end 22 where bandwidth is assigned using “permits” (i.e., grants) in the downstream using a one byte MAC header (i.e., MAC protocol) and requested using “requests” in the upstream [see figure 6]. In addition, *Ghaibeh* teaches a reasonable but broad interpretation of both static and dynamic allocation techniques including CBR, VBR, and ABR (for a minimum guaranteed bandwidth). Thus both a “guaranteed dynamic bandwidth” and “available bandwidth technique” are taught by the reference [e.g., column 2, lines 50-67; column 5, lines 55-67].

Not clearly taught by the *Ghaibeh* reference is sharing equal parts among all peripheral stations that signal to the master station the need to use the channel from the peripheral stations to the master stations to send traffic. Examiner notes that it would have been obvious to someone skilled in the art prior to applicant’s invention to share equal parts among peripheral stations. One motivation would be to assign the same level quality of service between all stations (i.e., allow each station equal access). As support, *Ghaibeh* discloses that at least one ATM cell in a respective VBR, ABR, or CBR service type is given an equal allocation of the available upstream bandwidth for that respective service priority [column 11, lines 1-12]. Thus *Ghaibeh* provides a motivation for using equal parts among peripheral stations.

As to **claims 19-21**, see column 9 lines 57-67 through column 10, lines 1-46.

As to **claim 22**, see column 10, lines 21-35.

As to **claim 23-27**, see column 6, lines 60-67 through column 7, lines 1-13 and column 9 lines 57-67 through column 11, lines 1-55.

Art Unit: 2663

As to **claim 30**, see the rejection for claim 1.

As to **claim 31**, see the rejection for claim 2.

As to **claims 35-36**, see similar rejection for claim 1.

9. **Claims 28-29 and 32-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,978,374 to *Ghaibeh et al.* ("*Ghaibeh*") in view of "Data Link Control Protocols for Wireless ATM Access Channels" to *Narasimhan et al.* ("*Narasimhan*").

As to **claims 28-29**, *Ghaibeh* is silent or deficient to retransmission of cells that contain errors (i.e., a data link layer). Examiner notes that retransmission of cells through acknowledgment messages are well known in the art prior to applicant's invention. As support, *Narasimhan* discloses transmitting an acknowledgment and corresponding packets thus providing a motivation for a retransmission mechanism [page 755].

As both reference discloses telecommunications in general, and more particularly, ATM packets based on a dynamic TDMA framework, examiner notes a motivation to combine the subject matter as a whole for both references. In other words, one would be motivated to modify the teachings of *Ghaibeh* to provide similar error correction since both inventions add a MAC layer to ATM.

As to **claim 32-34**, see column 6, lines 60-67 through column 7, lines 1-13 and column 9 lines 57-67 through column 11, lines 1-55 of *Ghaibeh*.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2663

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Derrick W. Ferris
Examiner
Art Unit 2663

DWF



CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 1/2/04